ATTACHMENT B
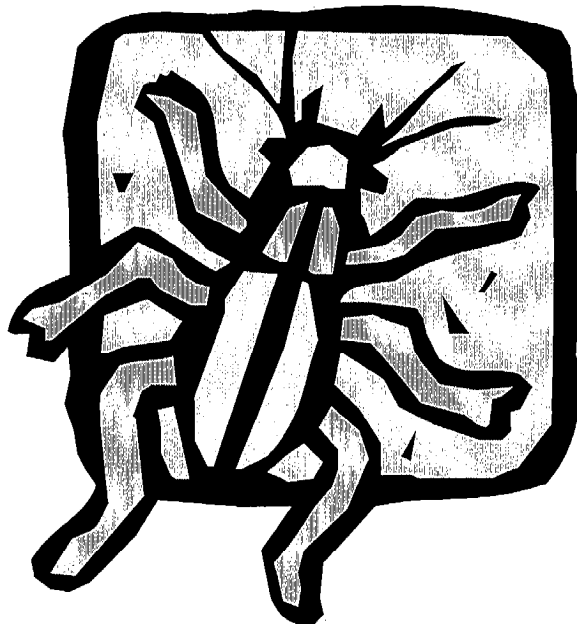
DETERMINATION OF URBAN LANDSCAPE WATER

SAVINGS FROM CONSERVATION

Determination of Urban Landscape Water Savings from Conservation

Sacramento

Exist. acres = 100,000
2020 acres = 145,000
ETo (af/ac) = 4.2

Distribution of acres (%)			Analysis of 2020 Conditions compared to 1995					
			No Action			CALFED		
ETo Factor	1995	Base	Exist.	New	Comb.	Exist.	New	Comb.
1.2	100	100	50	30	44	40	10	31
1.0			25	30	27	30	10	24
0.8			25	40	30	30	75	44
0.6					0		5	2
0.4					0			0

Resultant area (acres)			Analysis of 2020 Conditions compared to 1995					
			No Action			CALFED		
ETo Factor	1995	Base	Exist.	New	Comb.	Exist.	New	Comb.
1.2	100,000	145,000	50,000	13,500	63,500	40,000	4,500	44,500
1.0	0	0	25,000	13,500	38,500	30,000	4,500	34,500
0.8	0	0	25,000	18,000	43,000	30,000	33,750	63,750
0.6	0	0	0	0	0	0	2,250	2,250
0.4	0	0	0	0	0	0	0	0
sum =	100,000	145,000	100,000	45,000	145,000	100,000	45,000	145,000

Applied Water (acre-feet)

ETo Factor	1995	Base	No Action	CALFED
1.2	504,000	730,800	320,040	224,280
1.0	0	0	161,700	144,900
0.8	0	0	144,480	214,200
0.6	0	0	0	5,670
0.4	0	0	0	0
Total water use =	504,000	730,800	626,220	589,050
Incremental Savings	---		104,580	37,170
Reduction from Base =			14%	5%
Incr. Savings from Reduced ET (<0.8 ETo)	---		0	1,890
Savings from ET Reduction=			0%	5%
Incr. Savings from Reduced Losses (>0.8 ETo)	---		104,580	35,280

Total % Reduction (Base to CALFED)
19%

Total Amount from ET Reduction
1%

Ratio of Depletion Reduction to Applied Water Savings   0.05 (modified to reflect outdoor water use realities)
(from Bull. 160-93 p.155)

Real Water Savings =   Reduced ET + (ratio * reduced losses)
Base to No Action =   5,229
No Action to CALFED =   3,654
Total =   8,883

Remaining Applied Water Reduction = total reduction - real water savings
Base to No Action =   99,351
No Action to CALFED =   33,516
Total =   132,867

Determination of Urban Landscape Water Savings from Conservation

Eastside San Joaquin

Exist. acres = 65,000
2020 acres = 120,000
ETo (af/ac) = 4.3

Distribution of acres (%)		Analysis of 2020 Conditions compared to 1995						
			No Action			CALFED		
ETo Factor	1995	Base	Exist.	New	Comb.	Exist.	New	Comb.
1.2	85	85	50	30	41	20	5	13
1.0	10	10	25	30	27	40	5	24
0.8	5	5	25	40	32	40	80	58
0.6					0		10	5
0.4					0			0

Resultant area (acres)		Analysis of 2020 Conditions compared to 1995						
			No Action			CALFED		
ETo Factor	1995	Base	Exist.	New	Comb.	Exist.	New	Comb.
1.2	55,250	102,000	32,500	16,500	49,000	13,000	2,750	15,750
1.0	6,500	12,000	16,250	16,500	32,750	26,000	2,750	28,750
0.8	3,250	6,000	16,250	22,000	38,250	26,000	44,000	70,000
0.6	0	0	0	0	0	0	5,500	5,500
0.4	0	0	0	0	0	0	0	0
sum =	65,000	120,000	65,000	55,000	120,000	65,000	55,000	120,000

Applied Water (acre-feet)

ETo Factor	1995	Base	No Action	CALFED
1.2	285,090	526,320	252,840	81,270
1.0	27,950	51,600	140,825	123,625
0.8	11,180	20,640	131,580	240,800
0.6	0	0	0	14,190
0.4			0	0
Total water use =	324,220	598,560	525,245	459,885
Incremental Savings	---		73,315	65,360
Reduction from Base =			12%	11%
Incr. Savings from Reduced ET (<0.8 ETo)	---		0	4,730
Savings from ET Reduction=			0%	7%
Incr. Savings from Reduced Losses (>0.8 ETo)	---		73,315	60,630

Total % Reduction (Base to CALFED)
23%

Total Amount from ET Reduction
3%

Ratio of Depletion Reduction to Applied Water Savings   0.05 (modified to reflect outdoor water use realities)
(from Bull. 160-93 p.155)

Real Water Savings =   Reduced ET + (ratio * reduced losses)

Base to No Action =	3,666
No Action to CALFED =	7,762
Total =	11,427

Remaining Applied Water Reduction = total reduction - real water savings

Base to No Action =	69,649
No Action to CALFED =	57,599
Total =	127,248

Determination of Urban Landscape Water Savings from Conservation

Tulare

Exist. acres = 70,000
2020 acres = 130,000
ETo (af/ac) = 4.3

Distribution of acres (%)			Analysis of 2020 Conditions compared to 1995					
			No Action			CALFED		
ETo Factor	1995	Base	Exist.	New	Comb.	Exist.	New	Comb.
1.2	15	15	10	10	10	5	0	3
1.0	60	60	60	30	46	50	10	32
0.8	25	25	30	60	44	45	70	57
0.6					0		20	9
0.4					0			0

Resultant area (acres)			Analysis of 2020 Conditions compared to 1995					
			No Action			CALFED		
ETo Factor	1995	Base	Exist.	New	Comb.	Exist.	New	Comb.
1.2	10,500	19,500	7,000	6,000	13,000	3,500	0	3,500
1.0	42,000	78,000	42,000	18,000	60,000	35,000	6,000	41,000
0.8	17,500	32,500	21,000	36,000	57,000	31,500	42,000	73,500
0.6	0	0	0	0	0	0	12,000	12,000
0.4	0	0	0	0	0	0	0	0
sum =	70,000	130,000	70,000	60,000	130,000	70,000	60,000	130,000

Applied Water (acre-feet)

ETo Factor	1995	Base	No Action	CALFED
1.2	54,180	100,620	67,080	18,060
1.0	180,600	335,400	258,000	176,300
0.8	60,200	111,800	196,080	252,840
0.6	0	0	0	30,960
0.4	0	0	0	0
Total water use =	294,980	547,820	521,160	478,160

			No Action	CALFED
Incremental Savings		---	26,660	43,000
	Reduction from Base =		5%	8%
Incr. Savings from Reduced ET (<0.8 ETo)		---	0	10,320
	Savings from ET Reduction=		0%	24%
Incr. Savings from Reduced Losses (>0.8 ETo)		---	26,660	32,680

Total % Reduction (Base to CALFED)
13%

Total Amount from ET Reduction
15%

Ratio of Depletion Reduction to Applied Water Savings   0.3
(from Bull. 160-93 p.155)

Real Water Savings =   Reduced ET + (ratio * reduced losses)

Base to No Action =	7,998
No Action to CALFED =	20,124
Total =	28,122

Remaining Applied Water Reduction = total reduction - real water savings

Base to No Action =	18,662
No Action to CALFED =	22,876
Total =	41,538

Determination of Urban Landscape Water Savings from Conservation

San Francisco

Exist. acres = 155,000
2020 acres = 180,000
ETo (af/ac) = 3.3

| Distribution of acres (%) | | Analysis of 2020 Conditions compared to 1995 | | | | | | |
| | | | No Action | | | CALFED | | |
ETo Factor	1995	Base	Exist.	New	Comb.	Exist.	New	Comb.
1.2	15	15	10	10	10	0	0	0
1.0	60	60	50	30	47	35	20	33
0.8	25	25	40	60	43	55	55	55
0.6					0	10	20	11
0.4					0		5	1

| Resultant area (acres) | | Analysis of 2020 Conditions compared to 1995 | | | | | | |
| | | | No Action | | | CALFED | | |
ETo Factor	1995	Base	Exist.	New	Comb.	Exist.	New	Comb.
1.2	23,250	27,000	15,500	2,500	18,000	0	0	0
1.0	93,000	108,000	77,500	7,500	85,000	54,250	5,000	59,250
0.8	38,750	45,000	62,000	15,000	77,000	85,250	13,750	99,000
0.6	0	0	0	0	0	15,500	5,000	20,500
0.4	0	0	0	0	0	0	1,250	1,250
sum =	155,000	180,000	155,000	25,000	180,000	155,000	25,000	180,000

Applied Water (acre-feet)

ETo Factor	1995	Base	No Action	CALFED
1.2	92,070	106,920	71,280	0
1.0	306,900	356,400	280,500	195,525
0.8	102,300	118,800	203,280	261,360
0.6	0	0	0	40,590
0.4			0	1,650
Total water use =	501,270	582,120	555,060	499,125

		No Action	CALFED
Incremental Savings	---	27,060	55,935
Reduction from Base =		5%	10%
Incr. Savings from Reduced ET (<0.8 ETo)	---	0	15,180
Savings from ET Reduction=		0%	27%
Incr. Savings from Reduced Losses (>0.8 ETo)	---	27,060	40,755

Total % Reduction (Base to CALFED)
14%

Total Amount from ET Reduction
18%

Ratio of Depletion Reduction to Applied Water Savings   0.9 (modified to reflect outdoor water use realities)
(from Bull. 160-93 p.155)

Real Water Savings =   Reduced ET + (ratio * reduced losses)
      Base to No Action =   24,354
    No Action to CALFED =   51,860
             Total =   76,214

Remaining Applied Water Reduction = total reduction - real water savings
      Base to No Action =   2,706
    No Action to CALFED =   4,076
             Total =   6,782

Determination of Urban Landscape Water Savings from Conservation

Central Coast

Exist. acres = 35,000
2020 acres = 50,000
ETo (af/ac) = 2.8

Distribution of acres (%)		Analysis of 2020 Conditions compared to 1995						
			No Action			CALFED		
ETo Factor	1995	Base	Exist.	New	Comb.	Exist.	New	Comb.
1.2	5	5	3	0	2	0	0	0
1.0	20	20	15	10	14	5	0	4
0.8	55	55	40	30	37	25	15	22
0.6	20	20	42	55	46	60	65	62
0.4				5	2	10	20	13

Resultant area (acres)		Analysis of 2020 Conditions compared to 1995						
			No Action			CALFED		
ETo Factor	1995	Base	Exist.	New	Comb.	Exist.	New	Comb.
1.2	1,750	2,500	1,050	0	1,050	0	0	0
1.0	7,000	10,000	5,250	1,500	6,750	1,750	0	1,750
0.8	19,250	27,500	14,000	4,500	18,500	8,750	2,250	11,000
0.6	7,000	10,000	14,700	8,250	22,950	21,000	9,750	30,750
0.4	0	0	0	750	750	3,500	3,000	6,500
sum =	35,000	50,000	35,000	15,000	50,000	35,000	15,000	50,000

Applied Water (acre-feet)

ETo Factor	1995	Base	No Action	CALFED
1.2	5,880	8,400	3,528	0
1.0	19,600	28,000	18,900	4,900
0.8	43,120	61,600	41,440	24,640
0.6	11,760	16,800	38,556	51,660
0.4			840	7,280
Total water use =	80,360	114,800	103,264	88,480
Incremental Savings	---		11,536	14,784
Reduction from Base =			10%	13%
Incr. Savings from Reduced ET (<0.8 ETo)	---		8,092	10,808
Savings from ET Reduction =			70%	73%
Incr. Savings from Reduced Losses (>0.8 ETo)	---		3,444	3,976

Total % Reduction (Base to CALFED)
23%

Total Amount from ET Reduction
72%

Ratio of Depletion Reduction to Applied Water Savings   1.0
(from Bull. 160-93 p.155)

Real Water Savings =   Reduced ET + (ratio * reduced losses)
Base to No Action =   11,536
No Action to CALFED =   14,784
Total =   26,320

Remaining Applied Water Reduction = total reduction - real water savings
Base to No Action =   0
No Action to CALFED =   0
Total =   0

Determination of Urban Landscape Water Savings from Conservation

South Coast

Exist. acres = 480,000
2020 acres = 650,000
ETo (af/ac) = 4.0

Distribution of acres (%)			Analysis of 2020 Conditions compared to 1995					
			No Action			CALFED		
ETo Factor	1995	Base	Exist.	New	Comb.	Exist.	New	Comb.
1.2	10	10	5	0	4	0	0	0
1.0	40	40	30	20	27	15	5	12
0.8	40	40	50	60	53	60	55	59
0.6	10	10	13	15	14	20	30	23
0.4			2	5	3	5	10	6

Resultant area (acres)			Analysis of 2020 Conditions compared to 1995					
			No Action			CALFED		
ETo Factor	1995	Base	Exist.	New	Comb.	Exist.	New	Comb.
1.2	48,000	65,000	24,000	0	24,000	0	0	0
1.0	192,000	260,000	144,000	34,000	178,000	72,000	8,500	80,500
0.8	192,000	260,000	240,000	102,000	342,000	288,000	93,500	381,500
0.6	48,000	65,000	62,400	25,500	87,900	96,000	51,000	147,000
0.4	0	0	9,600	8,500	18,100	24,000	17,000	41,000
sum =	480,000	650,000	480,000	170,000	650,000	480,000	170,000	650,000

Applied Water (acre-feet)

ETo Factor	1995	Base	No Action	CALFED
1.2	230,400	312,000	115,200	0
1.0	768,000	1,040,000	712,000	322,000
0.8	614,400	832,000	1,094,400	1,220,800
0.6	115,200	156,000	210,960	352,800
0.4			28,960	65,600
Total water use =	1,728,000	2,340,000	2,161,520	1,961,200

Incremental Savings	---		178,480	200,320
Reduction from Base =			8%	9%
Incr. Savings from Reduced ET (<0.8 ETo)	---		47,280	83,920
Savings from ET Reduction=			26%	42%
Incr. Savings from Reduced Losses (>0.8 ETo)	---		131,200	116,400

Total % Reduction (Base to CALFED)
16%

Total Amount from ET Reduction
35%

Ratio of Depletion Reduction to Applied Water Savings   0.8
(from Bull. 160-93 p.155)

Real Water Savings =	Reduced ET + (ratio * reduced losses)
Base to No Action =	152,240
No Action to CALFED =	177,040
Total =	329,280

Remaining Applied Water Reduction = total reduction - real water savings	
Base to No Action =	26,240
No Action to CALFED =	23,280
Total =	49,520

Determination of Urban Landscape Water Savings from Conservation

Colorado

Exist. acres = 35,000
2020 acres = 75,000
ETo (af/ac) = 6.0

| Distribution of acres (%) | | | Analysis of 2020 Conditions compared to 1995 | | | | | |
| | | | No Action | | | CALFED | | |
ETo Factor	1995	Base	Exist.	New	Comb.	Exist.	New	Comb.
1.2	70	70	60	50	55	50	40	45
1.0	30	30	35	40	38	30	30	30
0.8			5	10	8	15	25	20
0.6					0	5	5	5
0.4					0			0

| Resultant area (acres) | | | Analysis of 2020 Conditions compared to 1995 | | | | | |
| | | | No Action | | | CALFED | | |
ETo Factor	1995	Base	Exist.	New	Comb.	Exist.	New	Comb.
1.2	24,500	52,500	21,000	20,000	41,000	17,500	16,000	33,500
1.0	10,500	22,500	12,250	16,000	28,250	10,500	12,000	22,500
0.8	0	0	1,750	4,000	5,750	5,250	10,000	15,250
0.6	0	0	0	0	0	1,750	2,000	3,750
0.4	0	0	0	0	0	0	0	0
sum =	35,000	75,000	35,000	40,000	75,000	35,000	40,000	75,000

Applied Water (acre-feet)

ETo Factor	1995	Base	No Action	CALFED
1.2	176,400	378,000	295,200	241,200
1.0	63,000	135,000	169,500	135,000
0.8	0	0	27,600	73,200
0.6	0	0	0	13,500
0.4	0	0	0	0
Total water use =	239,400	513,000	492,300	462,900

Incremental Savings		---	20,700	29,400
	Reduction from Base =		4%	6%
Incr. Savings from Reduced ET (<0.8 ETo)		---	0	4,500
	Savings from ET Reduction=		0%	15%
Incr. Savings from Reduced Losses (>0.8 ETo)		---	20,700	24,900

Total % Reduction (Base to CALFED)
10%

Total Amount from ET Reduction
9%

Ratio of Depletion Reduction to Applied Water Savings   0.9
(from Bull. 160-94a p.155)

Real Water Savings =   Reduced ET + (ratio * reduced losses)
Base to No Action =   18,630
No Action to CALFED =   26,910
Total =   45,540

Remaining Applied Water Reduction = total reduction - real water savings
Base to No Action =   2,070
No Action to CALFED =   2,490
Total =   4,560